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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/673,441

09/30/2003

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EXAMINER

SINGH, DALZID E

ART UNIT

PAPER NUMBER

2613

MAIL DATE

DELIVERY MODE

06/11/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/673,441

Applicant(s)

MINATO ET AL.

Examiner

Dalzid Singh

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-8, 11 and 12 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 9, 10 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 6-8, 11 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Fathallah et al (US Pub. No. 2004/0208624).

Regarding claim 1, Fathallah et al disclose an optical transmitter, shown in Fig. 4, comprising:

an encoder for encoding multi-wavelength pulses corresponding to electric sending data by use of time spread/wavelength hopping in accordance with an encoding pattern of the encoder itself, wherein the encoder concurrently executes time delay for every wavelength component at encoding, and time delay due to pre-compensation processing to pre-compensate for difference in propagation time for every wavelength component, occurring due to chromatic dispersion characteristics of a transmission line between the optical transmitter and an optical receiver opposed thereto by  $\alpha\%$  ( $0 < \alpha < 100$ ) (see col. 8 to col. 9, lines 1-11; see summary, claim 12 and claim 17 for chromatic dispersion compensation).

Regarding claim 2, wherein the encoder comprises a chirped Fiber Bragg Grating having a plurality of different diffraction gratings, formed in the longitudinal direction of a fiber, serving as an optical element for executing the time delays for every wavelength component (see Fig. 9A).

Regarding claim 3, wherein the encoder is capable of varying time delay amounts for every wavelength component (see Fig. 9A).

Regarding claim 6, Fathallah et al disclose an optical receiver, as shown in Fig. 11A, comprising:

a decoder to which an optical signal encoded by use of time spread/wavelength hopping is inputted, and for decoding the optical signal in accordance with a decoding pattern of the decoder itself, wherein the decoder concurrently executes time delay for every wavelength component at decoding, and time delay due to dispersion equalization processing to compensate for difference in propagation time for every wavelength component, occurring due to chromatic dispersion characteristics of a transmission line between the optical receiver and an optical transmitter opposed thereto by  $\beta\%$  ( $0 < \beta < 100$ ) (see col. 9, lines 51-67 to col. 1-37; see summary, claim 12 and claim 17 for chromatic dispersion compensation).

Regarding claim 7, wherein the decoder comprises a chirped Fiber Bragg Grating having a plurality of different diffraction gratings, formed in the longitudinal direction of a fiber, serving as an optical element for executing the time delays for every wavelength component (see Fig. 11A).

Regarding claim 8, wherein the decoder is capable of varying time delay amounts for every wavelength component (see Fig. 11A).

Regarding claim 11, Fathallah et al disclose an optical transmission system, as shown in Fig. 9A and 11A, comprising:

an optical transmitter having an encoder for encoding multi-wavelength pulses corresponding to electric sending data by use of a method of time spread/wavelength hopping in accordance with an encoding pattern of the encoder itself, and an optical receiver having a decoder to which an optical signal transmitted by the optical transmitter and encoded by use time spread/wavelength hopping is inputted, and for decoding the optical signal in accordance with a decoding pattern of the decoder itself, the optical transmitter and optical receiver being disposed so as to oppose each other with a transmission line interposed therebetween, wherein the optical transmitter according to claim 1 is in use as said optical transmitter (see col. 9, lines 51-67 to col. 1-37 and see col. 8 to col. 9, lines 1-11; see summary, claim 12 and claim 17 for chromatic dispersion compensation).

Regarding claim 12, Fathallah et al disclose an optical transmission system, as shown in Fig. 9A and 11A, comprising:

an optical transmitter having an encoder for encoding multi-wavelength pulses corresponding to electric including data by use of time spread/wavelength hopping in accordance with an encoding pattern of the encoder itself (see col. 9, lines 51-67 to col.

1-37; see summary, claim 12 and claim 17 for chromatic dispersion compensation)., and

an optical receiver having a decoder to which an optical signal transmitted by the optical transmitter and encoded by use of time spread/wavelength hopping is inputted, and for decoding the optical signal in accordance with a decoding pattern of the decoder itself, the optical transmitter and optical receiver being disposed so as to oppose each other with a transmission line interposed therebetween, wherein the optical receiver according to claim 6 is in use as said optical receiver (see col. 8 to col. 9, lines 1-11; see summary, claim 12 and claim 17 for chromatic dispersion compensation).

### ***Allowable Subject Matter***

3. Claims 4, 5, 9, 10 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

4. Applicant's arguments filed March 20, 2007 have been fully considered but they are not persuasive.

Applicant argues that the reference does not teach a time delay for time spread/wavelength hopping encoding and chromatic dispersion. However, in the

summary and claims 12 and claims 17, Fathallah et al teach compensation of chromatic dispersion.

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

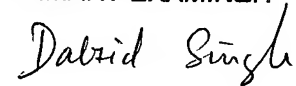
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalzid Singh whose telephone number is (571) 272-3029. The examiner can normally be reached on Mon-Fri 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DS  
June 6, 2007

DALZID SINGH  
PRIMARY EXAMINER

A handwritten signature in cursive script that reads "Dalzid Singh".